Detailed First Office Action

The application relates to a multi-path detecting circuit used for CDMA system. An object of the invention is to provide a multi-path detecting circuit suitable for a CDMA receiver capable of fast and accurate multi-path detection. After examination, the opinions of the Examiner are proposed as follows:

1.Claim 1 lacks essential technical features, and it is not complied with the provision of Rule 21(2) of the Implementing Regulations of the Chinese Patent Law

According to the comprehension of the Examiner, in order to resolve the above described technical problem, both the technical contents related to the components "matched filter" of the detecting circuit and the technical contents of dependent claims 2-4 are essential technical features. The applicant should add these technical features to claim 1, and delete corresponding dependent claims 2-4.

Rule 21(2) of the Implementing Regulations of the Chinese Patent Law: The independent claim shall outline the technical solution of an invention or utility model and state the essential technical features necessary for the solution of its technical problem.

2. There is a typing error in Chinese character in claim 6, so that the dependent claim 6 is not complied with the provision of Rule 23(2) of the Implementing Regulations of the Chinese Patent Law.

(IDS. filed on April 9, 2001)

3.Claim 7 is objected under Article 22(3) of the Chinese Patent Law

The Reference 1 (**JP 10190522 A**) discloses a path detecting circuit used for CDMA system. And the Reference 1 discloses following technical features: determining the path to be assigned to RAKE finger part by averaging delay sequences (see the Abstract of the Invention and the Drawing of the Abstract of the Reference 1). The Reference 2 (**CN 1234656 A**) discloses a delay profile detecting circuit used for CDMA communication system. And the Reference 2 discloses a delay profile detecting circuit used for CDMA communication, and following technical features: measuring the delay profile of the base band signal by changing detecting time (detecting period) for detecting the delay profile of the base band signal (see page 7 line 25 to page 8 line 27, the Abstract of the Invention, and Figure 7 of the Reference 2). From above, the References 1 and 2 disclose all of technical features of the claim 7. For the reason of the technical solutions of the References and the invention belong to the same technical field, it is obvious that the ordinary person in the field can derive the technical solution to be protected by the claim 7 from the combination of the Reference 1 and the Reference 2. Further, such a combination could not result in any unexpected technical effects. Hence, claim 7 has no prominent substantive features and represents any notable progress, and it is rejected under the provision of Article 22(3) of the Chinese Patent Law.

4. Claim 8 lacks essential technical features, and it is not complied with the provision of Rule 21(2) of the Implementing Regulations of the Chinese Patent Law

According to the comprehension of the Examiner, in order to above described technical problem, both the technical features related to the components "long period delay profile storing part" and the connection relation between components of the multi-path detecting system are essential technical features. The applicant should add these technical features to claim 8.

5. Claim 9 is not complied with the provision of Rule 20(1) of the Implementing Regulations of the Chinese Patent Law

The type of the claim 9 is not clear. A claim should be either a product claim, or a method claim. The subject matter to be protected by claim 9 is a multi-path detecting system, but the characterizing portion comprises steps of the method. Hence, this writing form renders the type of the claim 9 being unclear. Therefor, claim 9 is not complied with the provision of Rule 20(1) of the Implementing Regulations of the Chinese Patent Law.

6.Claim 10 is objected under Article 22(3) of the Chinese Patent Law

The Reference 1 (**JP 10190522 A**) discloses a path detecting circuit used for CDMA system. And the Reference 1 discloses following technical features: an antenna part for receiving radio transmitted signal; an A/D converter part; a multi-path detecting part; a RAKE synthesizing part for synthesizing data from the RAKE finger part as received at each timing; an average delay part for determining the path to be assigned to RAKE finger part by averaging delay sequences (the Abstract of the Invention, column 1 line 38 to column 10 line 3 and Figure 6 of the Reference 1). The Reference 2 (**CN 1234656 A**) discloses a delay profile detecting circuit used for CDMA communication system. And the Reference 2 discloses a delay profile detecting circuit used for CDMA communication, and following technical features: measuring the delay profile of the base band signal by changing detecting time (detecting period) for detecting the delay profile of the base band signal (see page 7 line 25 to page 8 line 27, the Abstract of the Invention, and Figure 7 of the Reference 2). From above, the References 1 and 2 disclose all of technical features of the claim 10. For the reason of the technical solutions of the References and the invention belong to the same technical field, it is obvious that the ordinary person in the field can derive the technical solution to be protected by the claim 10 from the combination

of the Reference 1 and the Reference 2. Further, such a combination could not result in any unexpected technical effects. Hence, claim 10 has no prominent substantive features and represents any notable progress, and it is rejected under the provision of Article 22(3) of the Chinese Patent Law.

7. Claim 11 is objected under Article 22(3) of the Chinese Patent Law

The Reference 1 (**JP 10190522 A**) discloses a path detecting circuit used for CDMA system. And the Reference 1 discloses following technical features: an antenna part for receiving radio transmitted signal; an A/D converter part; a multi-path detecting part; a RAKE synthesizing part for synthesizing data from the RAKE finger part as received at each timing; an average delay part for determining the path to be assigned to RAKE finger part by averaging delay sequences (the Abstract of the Invention, column 1 line 38 to column 10 line 3 and Figure 6 of the Reference 1). The Reference 2 (**CN 1234656 A**) discloses a delay profile detecting circuit used for CDMA communication system. And the Reference 2 discloses a delay profile detecting circuit used for CDMA communication, and following technical features: measuring the delay profile of the base band signal by changing detecting time (detecting period) for detecting the delay profile of the base band signal (see page 7 line 25 to page 8 line 27, the Abstract of the Invention, and Figure 7 of the Reference 2). From above, the References 1 and 2 disclose all of technical features of the claim 11. For the reason of the technical solutions of the References and the invention belong to the same technical field, it is obvious that the ordinary person in the field can derive the technical solution to be protected by the claim 11 from the combination of the Reference 1 and the Reference 2. Further, such a combination could not result in any unexpected technical effects. Hence, claim 11 has no prominent substantive features and represents any notable progress, and it is rejected under the provision of Article 22(3) of the Chinese Patent Law.

8. Claims 5 and 6 are not complied with the provision of Rule 23(2) of the Implementing Regulations of the Chinese Patent Law

Dependent claims 5 and 6 are multiple dependent claims themselves, but they refer to the preceding multiple dependent claim 3. Hence, claims 5 and 6 are not complied with the provision of Rule 23(2) of the Implementing Regulations of the Chinese Patent Law.

Rule 23(2) of the Implementing Regulations of the Chinese Patent Law: Any dependent claim shall only refer to the preceding claim or claims. Any multiple dependent claims, which refers to two or more claims, shall refer to the preceding one in the alternative only, and shall not serve as a basis for any other multiple dependent claims.

9. The Specification has no subtitles of respective portions. This point is not complied with the provision of Rule 18(2) of the Implementing Regulation of the Chinese Patent Law.

Rule 18(2) of the Implementing Regulation of the Chinese Patent Law: The description shall include the following: (1) technical field: specifying the technical field to which the technical solution for which protection is sought pertains; (2) background art: indicating the background art which can be regarded as useful for the understanding, searching and examination of the invention or utility model, and when possible, citing the documents reflecting such art; (3) contents of the invention: disclosing the technical problem the invention or utility model aims to settle and the technical solution adopted to resolve the problem; and stating, with reference to the prior art, the advantageous effects of the invention or utility model; (4) description of figures: briefly describing each figure in the drawings, if any; (5) mode of carrying out the invention or utility model: describing in detail the optimally selected mode contemplated by the applicant for carrying out the invention or utility model; where appropriate, this shall be done in terms of examples, and with reference to the drawings, if any;

In summary, due to the reasons mentioned above, this application could not be granted a patent at present. The applicant should amend the claims following the requirements as described above. It should be noted that the amendment to the application could not go beyond the scope of the disclosure contained in the initial description and claims. Otherwise, the application would be rejected.

State Intellectual Property Office of People's Republic of China

Add:16/F.,ZhongkeBuilding,No.80,Haidian Road, Haidian District, Beijing ,P.R.China Postal Code:100080

Applicant(s)	**NEC Corporation**	Issuing Date:
Patent Agent(s)	**Haibo ZHU**	**September 26, 2003**
Application No.	01110503.8	
Title of Invention	**Multi-Path Detecting Circuit and System**	

THE FIRST OFFICE ACTION

1.☒ The applicant has filed a request for substantive examination on _____ (day/month/year). The examiner has proceeded the substantive examination on the above mentioned patent application for invention in accordance with the provisions of Articl 35(1) of the Chinese Patent Law.

☐ The Patent Office has decided to proceed a substantive examination on the above mentioned patent application for invention in accordance with the provisions of Article 35(2) of the Chinese Patent Law.

2. ☒ The applicant claimed:

the filing date __2000.4.7__ in the **Japan** Patent Office as the priority date,

the filing date _____ in the _____ Patent Office as the priority date,

the filing date _____ in the _____ Patent Office as the priority date,

the filing date _____ in the _____ Patent Office as the priority date,

the filing date _____ in the _____ Patent Office as the priority date.

☐ The applicant has provided a copy of the priority documents certified by the Patent Office where the prior application(s)was/were filed.

☐ The applicant has not provided a copy of the priority documents certified by the Patent Office where the prior application(s)was/were filed and the priority claim(s) is/are deemed not to have been made in accordance with the provisions of Article 30 of the Chinese Patent Law.

3.☐ The applicant submitted amendment (s) to the application on_____and on _____ , wherein.

the amendment (s) submitted on _____ and

on _____ are unacceptable,

because said amendment(s) is/are not in conformity with

☐ the provisions of Article 33 of the Chinese Patent Law:

☐ the provisions of Rule 51 of the Implementing Regulations of the Chinese Patent Law.

The detailed reasons for the amendments being unacceptable is described in the text of this Office Action.

4. ☒The examination is proceeded based on the application documents originally filed.

☐Description:

Pages _____ of original application documents filed don the application date,

Pages _____ filed on; Pages_____ filed on;

Pages _____ filed on; Pages_____ filed on;

03-10-10

☐Claims:

Pages _____ of original application documents filed don the application date,

Pages _____ filed on; Pages_____ filed on;

Pages _____ filed on; Pages_____ filed on;

☐Drawings:

Pages _____ of original application documents filed don the application date,

Pages _____ filed on; Pages_____ filed on;

Pages _____ filed on; Pages_____ filed on;

☐Abstract: ☐ Filed on the application date; ☐ filed on _____

☐Drawing to the Abstract: ☐ Filed on the application date; ☐ filed on _____

5.☐ This Notification is issued without a search having been conducted.

☒ This Notification is issued with a search having been conducted.

☒ The following reference documents have been cited in this office action(their serial numbers will be referred to in the ensuing examination procedure):

Serial No.	Reference document(Number or Title)	Publication Date (or Filing date of interference patent applications)		
1	JP 10190522 A	21day	07 month	1998year
2	CN 1234656 A	10day	11 month	1999year
3		day	month	year
4		day	month	year

→ IDS filed
April 9, 2001

6. The conclusive opinion of the examiner is as follows:

☒ Description:

☐ The subject matter of the application falls into the scope, on which no patent right shall be granted, defined by Article 5 of the Chinese Patent Law.

☐ The description is not in conformity with the provisions of Article 26(3) of the Chinese Patent Law.

☒ The description is not in conformity with the provisions of Rule 18 of the Implementing Regulations of the Chinese Patent Law.

☒ Claims:

☐ Claim _____ falls into the scope, on which no granted patent right shall be granted, provided by Article 25 of the Chinese Patent Law.

☐ Claim _____ is not in conformity with the definition of invention prescribed by Rule 2(1) of the Implementing Regulations of the Chinese Patent Law.

☐ Claim __'_____ does not possess novelty provided by Article 22(2) of the Chinese Patent Law.

☒ Claim _7, 10, 11_does not possess inventiveness provided by Article 22(3) of the Chinese Patent Law.

☐ Claim _____ does not possess practical applicability provided by Article 22(4) of the

Chinese Patent Law.

☐ Claim _____ is not in conformity with the provisions of Article 26(4) of the Chinese Patent Law.

☐ Claim _____ is not in conformity with the provisions of Article 31(1) of the Chinese Patent Law.

☒ Claim _1-6, 8, 9_ is not in conformity with the provisions of Rule 20 to 23 of the Implementing Regulations of the Chinese Patent Law.

☐ Claim _____ is not in conformity with the provisions of Article 9 of the Chinese Patent Law.

☐ Claim _____ is not in conformity with the provisions of Rule 12(1) of the Implementing Regulations of the Chinese Patent Law.

The detailed analysis for above conclusive opinion is described in the text of this office action.

7. On the basis of the above conclusive opinion, the examiner holds that:

☐ The applicant should make amendment in accordance with the requirements described in the text of this office action.

☒ The applicant should expound reasons for that the above mentioned patent application can be granted patent right, and make amendments to the specification which is not in conformity with the provisions as described in the text of this office action; otherwise the patent right shall not be granted.

☐ The patent application does not possess any substantive contents for which patent right may be granted, if the applicant fails to expound reasons or the reasons expounded are not sufficient, this application will be rejected.

☐

8. The applicant shall pay attention to the following matters:

(1) In accordance with the provisions of Article 37 of the Chinese Patent Law, the applicant shall submit a response within _four_ months from the date of receiving this office action. If the applicant fails to meet the time limit without any justified reason, the application shall be deemed to have been withdrawn.

(2) The amendment made by the applicant shall be in conformity with the provisions of Article 33 of the Chinese Patent Law. The amendment shall be submitted in duplicate copies and in a format which is in accordance with the relevant provisions of the Examination Manual.

(3) The applicant's response and/or amended documents shall be mailed or submitted to the Receiving Department of the Chinese Patent Office. The documents which are not mailed or submitted to the Receiving Department do not possess legal effect.

(4) The applicant and/or his(its) agent shall not come to the Chinese Patent Office to interview with the examiner without an appointment.

9. The text of this office action consists of a total of _3_ sheets, and is accompanied by the following annexes:

☒ A copy of the cited reference documents consisting of _2_ sets and _12_ sheets.

☐ The _9-C_ Examination Department   The Seal of the Examiner: _Yumei SUN_

中华人民共和国国家知识产权局

邮政编码：100080

北京市海淀区海淀路 80 号中科大厦 16 层

中科专利商标代理有限责任公司

朱海波

审查员签章

申 请 号	01110503.8	部门及通知书类型	9-C	发文日期
申 请 人	日本电气株式会社			
发明名称	多路径检测电路和系统			

第一次审查意见通知书

1. ☒依申请人提出的实审请求，根据专利法第 35 条第 1 款的规定，审查员对上述发明专利申请进行实质审查。

   ☐根据专利法第 35 条第 2 款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。

2. ☒申请人要求以其在：

   _____日本_____专利局的申请日_2000_年_4_月_7_日为优先权日，

   _____专利局的申请日_____年_____月_____日为优先权日，

   _____专利局的申请日_____年_____月_____日为优先权日，

   _____专利局的申请日_____年_____月_____日为优先权日，

   _____专利局的申请日_____年_____月_____日为优先权日。

   ☐申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。

   ☐申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本，根据专利法第 30 条的规定视为未提出优先权要求。

3. ☐申请人于_____年_____月_____日和_____年_____月_____日提交了修改文件。

   经审查，其中：_____年_____月_____日提交的_____不能被接受；

   _____年_____月_____日提交的_____不能被接受；

   因为上述修改 ☐不符合专利法第 33 条的规定。 ☐不符合实施细则第 51 条的规定。

   修改不能被接受的具体理由见通知书正文部分。

4. ☒审查是针对原始申请文件进行的。

   ☐审查是针对下述申请文件的：

   申请日提交的原始申请文件的权利要求第_____项、说明书第_____页、附图第_____页；

   _____年_____月_____日提交的权利要求第_____项、说明书第_____页、附图第_____页；

   _____年_____月_____日提交的权利要求第_____项、说明书第_____页、附图第_____页；

   _____年_____月_____日提交的权利要求第_____项、说明书第_____页、附图第_____页；

   _____年_____月_____日提交的说明书摘要，_____年_____月_____日提交的摘要附图。

5. ☐本通知书是在未进行检索的情况下作出的。

   ☒本通知书是在进行了检索的情况下作出的。

   ☒本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用)：

第一次审查意见通知书正文

该发明专利申请涉及移动通信系统中的多路径检测。根据说明书的记载，其要解决的技术问题是提供一种多路径检测电路和系统，使码分多址系统实现快速准确的多路径检测。经审查，具体审查意见如下：

1、独立权利要求 1 缺少解决技术问题的必要技术特征，不符合实施细则第二十一条第二款的规定。根据审查员的理解，要解决前述技术问题，与该多路径检测电路的构成单元"匹配滤波器"相关的内容及该权利要求的从属权利要求 2-4 限定部分的技术特征均是必不可少的技术特征，申请人应当将其记载到该权利要求 1 中，并删除相应的从属权利要求 2-4。

2、从属权利要求 6 引用部分的主体名称与所引用的权利要求的主体名称不一致，使得该权利要求不符合专利法实施细则第二十三条第二款的规定。

3、权利要求 7 不具备创造性，不符合专利法第二十二条第三款的规定。对比文件 1 公开了一种应用于 CDMA 系统具有路径检测功能的接收机电路的路径检测系统，并具体公开了以下的技术特征"通过平均延迟序列来确定分配给 RAKE 指状部分的路径"（参见该对比文件 1 说明书摘要、摘要附图）；对比文件 2 公开了一种应用于 CDMA 通信系统的延迟轮廓检测装置电路，并具体公开了以下的技术特征"通过改变检测基带信号延迟轮廓的检测时间（即检测周期）来测量基带信号的延迟轮廓（即延迟分布）"（参见该对比文件 2 说明书第 7 页 25 行至第 8 页 27 行、说明书摘要及附图 7）。由此可见，对比文件 1 和对比文件 2 已经披露了该权利要求的全部技术特征。由于对比文件所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，在对比文件 1 的基础上结合对比文件 2 得出该权利要求所要求保护的技术方案，对所述技术领域的技术人员来说是显而易见的，而且两者的结合没有产生预料不到的技术效果，因此该权利要求 7 不具备突出的实质性特点和显著的进步，因而不具备创造性。

4、独立权利要求 8 缺少解决技术问题的必要技术特征，不符合实施细则第 21 条第 2 款的规定。根据审查员的理解，要解决前述技术问题，与"长周期延迟分布存储部分"相关的技术特征及该多路径检测系统各组成部分间的结构关系及相互作用关系是必不可少的技术特征，申请人应当将它们记载到该权

利要求 8 中。

5、权利要求 9 类型不清楚，不符合专利法实施细则第二十条第一款的规定。权利要求要么是产品权利要求，要么是方法权利要求，该权利要求请求保护的主题是一种多路径检测系统，但其特征部分却为方法步骤特征，该权利要求的这种撰写形式使得该权利要求的类型不清楚，不符合专利法实施细则的有关规定。

6、权利要求 10 不具备创造性，不符合专利法第二十二条第三款的规定。对比文件 1 公开了一种应用于 CDMA 系统具有路径检测功能的接收机，并具体公开了以下的技术特征"一个用于接收射频发送信号的天线部分；模数转换部分；多路径检测部分；用于合成在每个时序从 RAKE 指状部分接收的数据的 RAKE 合成部分；通过平均延迟序列来确定分配给 RAKE 指状部分的路径的平均延迟部分"（参见该对比文件 1 说明书摘要及说明书第 1 栏 38 行至第 10 栏 3 行、附图 6）；对比文件 2 公开了一种应用于通信系统的延迟轮廓检测装置电路，并具体公开了以下的技术特征"通过改变检测基带信号延迟轮廓的检测时间（即检测周期）来测量基带信号的延迟轮廓（即延迟分布）"（参见该对比文件 2 说明书第 7 页 25 行至第 8 页 27 行、说明书摘要及附图 7）。由此可见，对比文件 1 和对比文件 2 已经披露了该权利要求的全部技术特征。由于对比文件所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，在对比文件 1 的基础上结合对比文件 2 得出该权利要求所要求保护的技术方案，对所述技术领域的技术人员来说是显而易见的，而且两者的结合没有产生预料不到的技术效果，因此该权利要求 10 不具备突出的实质性特点和显著的进步，因而不具备创造性。

7、权利要求 11 也不具备创造性，不符合专利法第二十二条第三款的规定。对比文件 1 公开了一种应用于 CDMA 系统具有路径检测功能的接收机，并具体公开了以下的技术特征"一个用于接收射频发送信号的天线部分；模数转换部分；多路径检测部分；用于合成在每个时序从 RAKE 指状部分接收的数据的 RAKE 合成部分；通过平均延迟序列来确定分配给 RAKE 指状部分的路径的平均延迟部分"（参见该对比文件 1 说明书摘要及说明书第 1 栏 38 行至第 10 栏 3 行、附图 6）。对比文件 2 公开了一种应用于通信系统的延迟轮廓检测装置电路，

并具体公开了以下的技术特征"通过改变检测基带信号延迟轮廓的检测时间（即检测周期）来测量基带信号的延迟轮廓（即延迟分布）"（参见该对比文件2说明书第7页25行至第8页27行、说明书摘要及附图7）。由此可见，对比文件1和对比文件2已经披露了该权利要求的全部技术特征。由于对比文件所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，在对比文件1的基础上结合对比文件2得出该权利要求所要求保护的技术方案，对所述技术领域的技术人员来说是显而易见的，而且两者的结合没有产生预料不到的技术效果，因此该权利要求11不具备突出的实质性特点和显著的进步，因而不具备创造性。

8、从属权利要求5、6本身是多项从属权利要求，它们又引用了在前的多项从属权利要求3，因此不符合实施细则第二十三条第二款的规定。

9、本申请的说明书缺少各部分的小标题，不符合专利法实施细则第十八条第二款有关"说明书应当按照：技术领域、背景技术、发明内容、附图说明、具体实施方式的顺序撰写，并在说明书每一部分前面写明标题"的规定。

另外，申请人在提交新修改的说明书时，应同时根据修改的权利要求书对说明书的技术方案部分和发明名称及说明书摘要作适应性修改，且应相应于修改后的独立权利要求修改，以反映独立权利要求保护的技术方案的内容或其要点。

申请人应当在本通知书指定的答复期限内作出答复，对本通知书提出的问题逐一进行答复，必要时应修改专利申请文件，否则本申请将难以获得批准。申请人对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书记载的范围。

[54]发明名称 解调设备和解调方法

[57]摘要

　　本发明的解调设备与传统技术相比可以明显减小功率消耗,同时不降低接收质量。延迟轮廓测量装置(41)用来在改变测量基带信号延迟轮廓的测量时间 的时候测量基带信号(S6)的延迟轮廓(S41)。所以测量时间降低到最 小值同时避免了接收电平恶化。因而与传统技术相比可以在接收质量不降低的 条件下明显减小功率消耗。
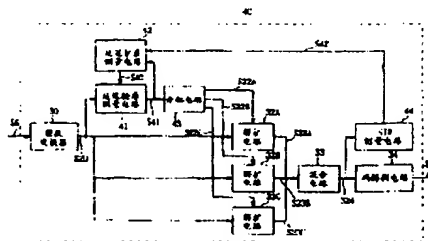
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图 5 是显示延迟轮廓测量电路结构的方框图；

图 6 是显示延迟轮廓的图表；

图 7 是显示根据本发明的解调器结构的方框图；

图 8 是显示延迟轮廓的图表；

图 9 是显示解调方法的流程图；

图 10 是显示根据其它实施例的延迟轮廓的图表；

图 11 是显示根据其它实施例的延迟轮廓的图表。

下面结合附图说明本发明的优选实施例。

如图 7 所示，这里与图 4 对应的部分用相同的符号表示，解调器 40 把基带信号 S6 分成若干个其每一个具有不同延迟时间的散射波以解扩它们，然后混合它们。解调器 40 把从正交检波器 16（图 3）输出的基带信号 S6 输入给模数变换器 30。模数变化器 30 对基带信号 S6 进行模数变换并向延迟轮廓测量电路 41 和解扩电路 32A 至 32C 输出合成接收信号 S20。

基于延迟扩展测量电路 42 供给的测量时间信息 S40，延迟轮廓测量电路 41 从接收数据 S20 含有的若干个散射波中逐一解扩由测量时间信息 S40 指示的时间周期中包含的散射波，并测量功率电平。延迟轮廓测量电路 41 生成代表散射波对延迟时间的功率电平分布的延迟轮廓 S43，并向延迟扩展测量电路 42 和分配电路 43 输出。

延迟扩展测量电路 42 根据信号干扰比（SIR）测量电路 44 供给的呼叫质量信息 S42 确定延迟轮廓测量电路 41 中的下一个测量时间，并把它作为测量时间信息 S40 输出给延迟轮廓测量电路 41。分配电路 43 基于延迟轮廓测量电路 41 输出的延迟轮廓 S41 从若干个散射波中具有最高功率电平的散射波中逐一选择散射波，并向相应的解扩电路 32A 至 32C 输出显示选择散射波的接收时序的时序信号 S22A 至 S22C。

例如，如图 8 所示，在被设置为缺省值的测量时间 T1 的范围内，延迟轮廓测量电路 41 测量散射波对延迟时间 τ_1 至 τ_7 的功率电平分布，以生成延迟轮廓 S41，并输出给延迟扩展测量电路 42 和分配电路 43。然后，分配电路 43 基于延迟轮廓 S41 选择延迟时间 τ_1 至 τ_7 的散射波中的延迟时间 τ_3、τ_4 和 τ_5 的散射波，并生成显示接收时序的时序信号 S22A 至 S22C。

另一方面，延迟扩展电路 42 从延迟轮廓测量电路 41 输出的延迟轮廓 S41 中

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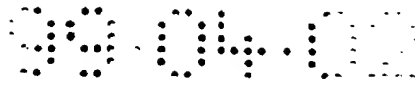
确定第二测量时间 Ts，并把它作为测量时间信息 S40 输出给延迟轮廓测量电路 41。延迟轮廓测量电路 41 基于测量时间信息 S40 在第一测量时间的预时序间延迟的时序上开始测量。经过测量时间 Ts 之后，终止测量。在第三测量时间，延迟扩展电路 42 根据从 SIR 测量电路 44 供给的呼叫质量信息 S42 选择测量时间 T1 和 T2 的一个，并把它作为测量时间信息 S40 输出给延迟轮廓测量电路 41。此后，连续重复上述操作。

参见图 7，解扩电路 32A 基于分配电路 43 供给的时序信号 S22A 生成时序的伪噪声码，并使用伪噪声码解扩接收数据 S20。解扩电路 32A 仅基于指配电路 43 的指令解扩若干个散射波中的散射波，并向混合电路 33 输出合成的解扩数据 S23A。

同样地，解扩电路 32B 和 32C 基于从分配电路 43 供给的时序信号 S22B 和 S22C 分别产生时序的伪噪声码，并使用生成的伪噪声码解扩接收数据 S20。解扩电路 32B 和 32C 仅基于分配电路 43 的指令解扩若干个散射波中的散射波，并向混合电路 33 输出合成的解扩数据 S23B 和 S23C。

混合电路 33 同步解扩数据 S23A 至 S23C 的时序，然后用最大比值混合方法混合解扩数据 S23A 至 S23C，并向 SIR 测量电路 44 和码解调电路 34 输出合成混合数据 S24。SIR 测量电路 44 从混合数据 S24 中获得当前呼叫质量 γ 以把当前呼叫质量 γ 与接收机所期望的呼叫质量 r 相比较，并把比较结果作为呼叫质量信息 S42 输出给延迟扩展测量电路 42。此外，码解调电路 34 基于预定的解调方法解调混合数据 S24，并把合成解调数据 S7 输出给后级的纠错电路 18（图 3）。

在这方面，尽管改变了延迟轮廓，但如果测量时间周期性地延长，则延迟轮廓测量电路 41 可以接受该改变。通常，对解扩电路 32A 至 32C 分配时序信号 S22A 至 S22C 的周期为几毫秒至几十毫秒。另一方面，延迟轮廓变化的时间是几百毫秒和几百毫秒以上，因而变化速度滞后。这样，延迟轮廓测量电路 41 只通过周期性地延长测量时间就可以避免接受功率电平的降低，所以延迟轮廓的测量时间可以限制到避免接受功率电平恶化的最小值。特别是，由于用户不移动时延迟轮廓不改变，因此我们可以获得满意的效果。

下面使用图 9 解释接收数据 S20 的解调方法。在从步骤 SP1 进入的步骤 SP2，延迟轮廓测量电路 41 在设置为缺省值的测量时间 T1 的范围内测量散射波对延迟时间的功率电平的分布，以便生成延迟轮廓 S41 并输出给延迟扩展测量电路 42 和
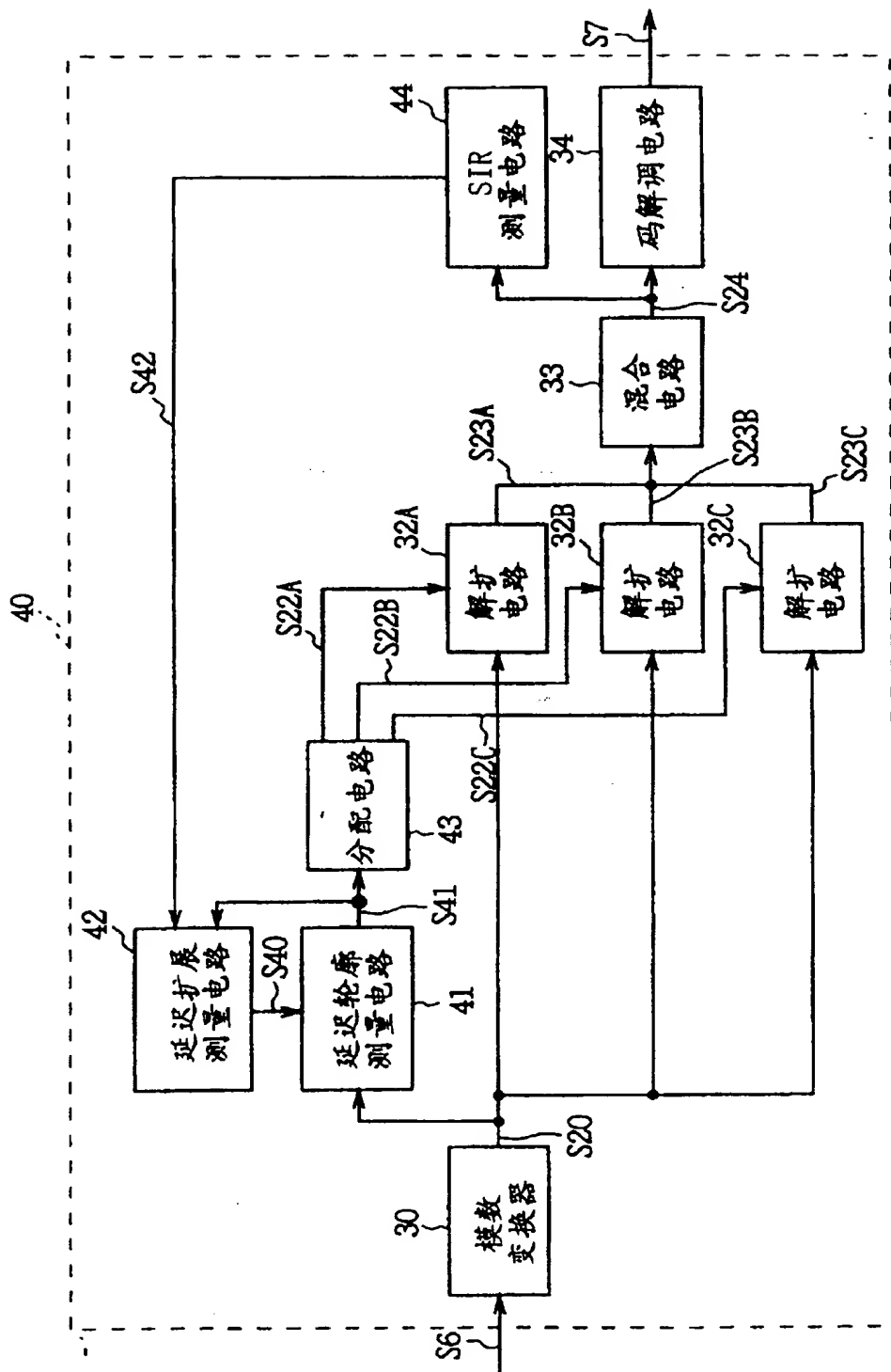
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图 7